

COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

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Investigation by the Department of )  
Telecommunications and Energy on its own )  
motion to Establish Methods and Procedures ) Docket D.T.E. 98-100  
to Evaluate and Approve Energy Efficiency )  
Programs, pursuant to G.L. c. 25, § 19 and )  
c. 25A, § 11G. )  
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**COMMENTS BY THE**  
**MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION**

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Introduction and Summary

The Massachusetts Department of Environmental Protection ("DEP"), Bureau of Waste Prevention, files these comments in response to the Department of Telecommunication and Energy's ("DTE") Investigation in Docket D.T.E. 98-100. DEP appreciates this opportunity to comment on the methods and procedures that the DTE will use to evaluate energy efficiency programs, because these programs will continue to play an important

role in protecting the environment in the region and the health of the residents of the Commonwealth.

DEP's focus in these comments is limited to the role that societal benefits -- specifically, those benefits that flow from avoiding emissions associated with electricity generation -- should play in evaluating the cost-effectiveness of potential energy efficiency programs. Our comments respond generally to questions 14-17 on page 13 of D.T.E. 98-100. There are three main points to our comments:

1. The DTE can, and should, consider the positive environmental benefits of avoided electricity generation when evaluating the relative costs and benefits of energy efficiency programs.
2. There are reliable indices of electric sector emissions that can be used to help evaluate environmental benefits in cost-effectiveness analyses.
3. Electric distribution company programs that focus on reducing electricity demand on peak summer days, such as those that have been implemented by NEPOOL companies in recent years, are effective in reducing the impact of air pollution on human health.

### **Environmental Benefits**

The DTE can, and should, consider the positive environmental benefits of avoided electricity generation when evaluating the relative costs and benefits of energy efficiency programs. Such consideration of environmental factors is a necessary component of state policies developed to ensure that the new competitive industry framework does not increase the degradation of environmental quality caused by the electric generating sector. This was a clear goal of the legislature in passing industry restructuring legislation, which contains several provisions to this end, including the energy efficiency charge at issue in this docket, as well as renewable portfolio standards, generation performance standards, and information disclosure. More importantly, perhaps, DTE has consistently included protection against degradation of the environment as a core principle of the new electric industry framework. Implementing electric industry restructuring in a way that reduces, or at least does not increase, the environmental impact of electricity generation has also been a key policy position of DEP and its sister agencies throughout the Northeast states. Including the environmental benefits of energy efficiency measures in cost-effectiveness evaluations of the legislatively-mandated energy efficiency programs in Massachusetts will help ensure that this important goal is met.

### **Evaluation of Environmental Benefits**

Although the full range of benefits may be difficult to quantify in dollar terms, there are reliable indices of electric sector emissions that can be used to evaluate the environmental benefits of energy efficiency programs in the context of other societal costs and benefits. New England electric sector emissions data -- particularly for NO<sub>x</sub>, SO<sub>2</sub>, and CO<sub>2</sub> -- are reported with a sufficient level of frequency and accuracy to enable a reliable estimate of

the emissions avoided by specific energy efficiency programs. Quantification of the dollar value of these avoided emissions is naturally more difficult and controversial, but there exists a wide range of studies that have attempted to capture this value for multiple pollutants.

We understand that joint comments will be filed today by many parties to this docket, recommending an adder of 25 percent to account for the environmental and other benefits of energy efficiency programs. DEP agrees that an adder is appropriate, and would like the opportunity to discuss this issue further with DTE.

### **Demand Reductions During Peak Summer Conditions**

In Massachusetts, DEP is responsible for developing the plans and requirements necessary for achieving the state and federal air quality standards to protect public health, welfare and the environment. This means that DEP decides the level of emission control a sector must meet, which usually leads to process redesign, the installation of emission control technologies, or other emission reduction strategies. In doing so, we strive to identify sectors and strategies that achieve the greatest level of emission reductions at the lowest total cost to the businesses and residents of the Commonwealth – that is, those reduction strategies that give us the biggest environmental "bang for the buck."

A good example of such highly cost-effective emission reductions is the reduction of electrical load in New England on summer days when load is already high and air quality is poor. These load reductions can reduce generation at marginal peaking facilities, many of which are characterized by very high emission rates. Avoiding this additional generation during summer peak load conditions is extremely effective from a public health point of view, particularly since high load conditions often occur in tandem with unhealthful levels of ground-level ozone. On these days, environmental agencies in New England issue public health warnings advising people to stay indoors and not exercise, and we typically see a significant increase in hospital admissions associated with respiratory complications. In addition, studies have implicated ozone exposure in long-term lung impairment, and damage to crops, other vegetation, and structural materials. The total economic costs involved are significant.

Most energy efficiency programs deliver some measure of load reduction on any given day. However, certain targeted load reduction programs can provide substantial savings, and air quality benefits, during high-load conditions. Over the last several years, electric utilities in the region have developed initiatives in their conservation plans to reduce electrical demand on certain days, primarily to reduce the potential for power shortages. These initiatives included programs to pay large customers to curtail load, as well as programs requesting that industrial, commercial, and residential customers take steps to reduce electricity consumption on a voluntary basis. Experience has shown that these programs, taken together, can achieve significant demand reductions on peak days, on the order of hundreds of megawatts across the region.

DEP urges the DTE to require that all Massachusetts' distribution company energy efficiency plans include, or at least evaluate, programs and procedures to reduce peak load on summer days when forecasts predict high electrical load and poor air quality. We believe such plans have been, and will continue to be highly effective, from reliability, cost and public health perspectives. We are prepared to provide assistance (e.g., through notification of expected high-ozone conditions) where necessary to help implement any such programs.

## **Summary**

DEP believes it is critical that DTE adopt guidelines for the evaluation of energy efficiency programs that recognize the substantial human health and environmental benefits that flow from energy efficiency programs. DEP recognizes that including consideration of such benefits will not affect the overall level of spending on such programs, since that is dictated by the charge included in the legislation. However, we believe proper accounting for these benefits will improve the environmental portfolio of energy efficiency programs, since it will help guide the selection among competing programs, and will contribute to the specific design and implementation of selected programs. Implementation of the energy efficiency programs selected and designed in consideration of a cost-effectiveness test that includes environmental considerations will be more consistent with the intent of the Legislature, and will help meet DTE's commitment to provide a regulatory framework that does not worsen the impact of the electric industry on the environment.

DEP appreciates the opportunity to provide comments in this docket, and we are willing to provide DTE with any assistance necessary to evaluate these issues further.